

REMARKS

The Office Action mailed June 13, 2002, has been reviewed and the Examiner's comments carefully considered. Claims 1, 3, and 5 remain pending and are submitted for reconsideration. Claims 1 and 5 have been amended. Claims 2 and 4 have been cancelled.

Claims 1-5 are rejected under 35 U.S.C. § 102(b) as being anticipated by Cheung et al. (EP 0 840 361 A2). Applicants submit that, as amended, the rejection of the pending claims is respectfully traversed for the following reasons.

Please note that claim 1 has been amended to better protect Applicants' invention. Specifically, claim 1, as amended, recites a method of forming a fine pattern wherein the silicon-oxide-based film is formed at a temperature of 500°C or more by means of a plasma CVD technique. Support for the limitation is found, for example, in Table 1 shown on page 8 of the original specification. Cheung et al. does not teach or suggest that the silicon-oxide-based film is deposited at a temperature of more than 400°C.

Claim 3 depends from claim 1 and is allowable therewith for at least the reasons set forth above, without regard to the further patentable limitations contained therein.

Please note that claim 5 has been amended to better protect Applicants' invention. Specifically, claim 5, as amended, recites a method of manufacturing a semiconductor device, wherein the silicon-oxide-based film is formed at a temperature of 500°C or more by means of a plasma CVD technique. Support for the limitation is found, for example, in Table 1 shown on page 8 of the original specification. Cheung et al. does not teach or suggest that the silicon-oxide-based film is formed at a temperature of more than 400°C.

In view of the foregoing, it is respectfully urged that the present claims are in condition for allowance. An early notice to this effect is earnestly solicited. Should the Examiner have any questions regarding the application, the Examiner is invited to contact the undersigned at the telephone number provided below.

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Respectfully submitted,

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Should additional fees be necessary in connection with the filing of this paper, or if a petition for extension of time is required for timely acceptance of same, the Commissioner is hereby authorized to charge Deposit Account No. 19-0741 for any such fees; and applicant(s) hereby petition for any needed extension of time.

VERSIONS WITH MARKINGS TO SHOW CHANGES MADE

In the Claims:

1. (Twice Amended) A method of forming a fine pattern, comprising the steps of:
forming a silicon-oxide-based film over a substrate, wherein the silicon-oxide-based film is formed at a temperature of 500°C or more by means of a plasma CVD technique;

forming a chemically-amplified photoresist layer on the silicon-oxide-based film;
and

transferring a mask pattern onto the chemically-amplified photoresist layer upon exposure through a mask; wherein, in the step of forming the silicon-oxide-based film, a nitrogen content of the surface of the silicon-oxide-based film is made to about a value of 0.1 atm.% or less.

5. (Twice Amended) A method of manufacturing a semiconductor device, comprising the steps of:

forming a silicon-oxide-based film over an underlying layer, wherein the silicon-oxide-based film is formed at a temperature of 500°C or more by means of a plasma CVD technique such that a surface of the silicon-oxide-based film [having] has a nitrogen content of 0.1 atm.% or less;

forming a chemically-amplified photoresist layer on the silicon-oxide-based film;
transferring a mask pattern onto the chemically-amplified photoresist layer upon exposure through a mask; and

etching the underlying layer by way of a resist pattern, to thereby form a fine pattern in the underlying layer.